

## Survey of 24 patients suffering from brain abscess in educational and treatment centers affiliated to Ardabil university of Medical Science

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### Abstract

**Introduction:** Brain abscess is a fatal illness that is caused of pus collection in the brain which nearly always occurs with predisposing factors such as otitis, sinusitis, mastoiditis, penetrating trauma and hematogenous spread. Identifying this predisposing factors and treatment them can help us to prevent from formation of brain abscess and it's high mortality and morbidity rate. This epidemiological study evaluated 24 patients suffered from brain abscess in educational and treatment centers related to Ardabil university of Medical Science.

**Materials and Methods:** This study was done as case series method and our study populations (samples) were all of the 24 patients suffered from brain abscess were admitted and were treated in hospitals related to Ardabil university of Medical Science during the recent 2 years (from 1383 to 1385). Our data was collected from patient's files and was arranged as a questionnaire. Then related findings were evaluated by SPSS software. Also diagnosis of the brain abscess was based by the radiologist report on CT scan or MRI or by the neurosurgeon operation report.

**Results:** The average age of patients was  $27.04 \pm 21.26$  years. Minimum and maximum age was 2 and 82 years. The most common involved group was group of 10-19 years. 70.8% of patients (17cases) were male and 29.2% (7cases) were female. The most common predisposing factors were neurosurgical history with 25% frequency (6cases) and then congenital heart disease with 20.9% frequency (5cases). Other causes were sinusitis in 4 patients (16.6%), Otitis media in 3 patients (12.5%), trauma in 1 patient (4.2%) and mastoiditis in 1 patient (4.2%), also in 4 patients (16.6%) the origin was unknown from 24 patients, 13 cases (54.2%) were living in the village and 11 cases (45.8%) in the city. In 19 cases (79.2%) the abscesses were solitary and in 5 cases (20.8%) were multiple. The sites of abscess in the brain were 37% (9cases) in frontal lobe (5 in the right and 2 in the left lobe), 29% (7cases) in parietal lobe, 17% (4cases) in temporal lobe (3 in the right and 1 in

the left lobe) and 17% (4cases) in the cerebellum. 14 cases (58.3%) were treated by surgery and 10 cases (41.7%) by antibiotic. the average hospitalization period was 21 days by surgery (maximum was 46 and minimum was 12 days) and 16 days by antibiotic therapy (maximum was 45 and minimum was 7 days).

Overall mortality was 8.4% (2cases).

**Conclusion:** we should use the echocardiography for the multiple abscesses. Also we can prevent from formation of the brain abscess and it's complications and mortality by early diagnosis and appropriate treatment of the preventable causes such as Otitis, Sinusitis, Mastoiditis and correction of the cardiac anomaly ( in CHD patients ).

**Key words:** Brain abscess, Epidemiology, Case series, predisposing factors, Ardabil.